

FIG. 1A



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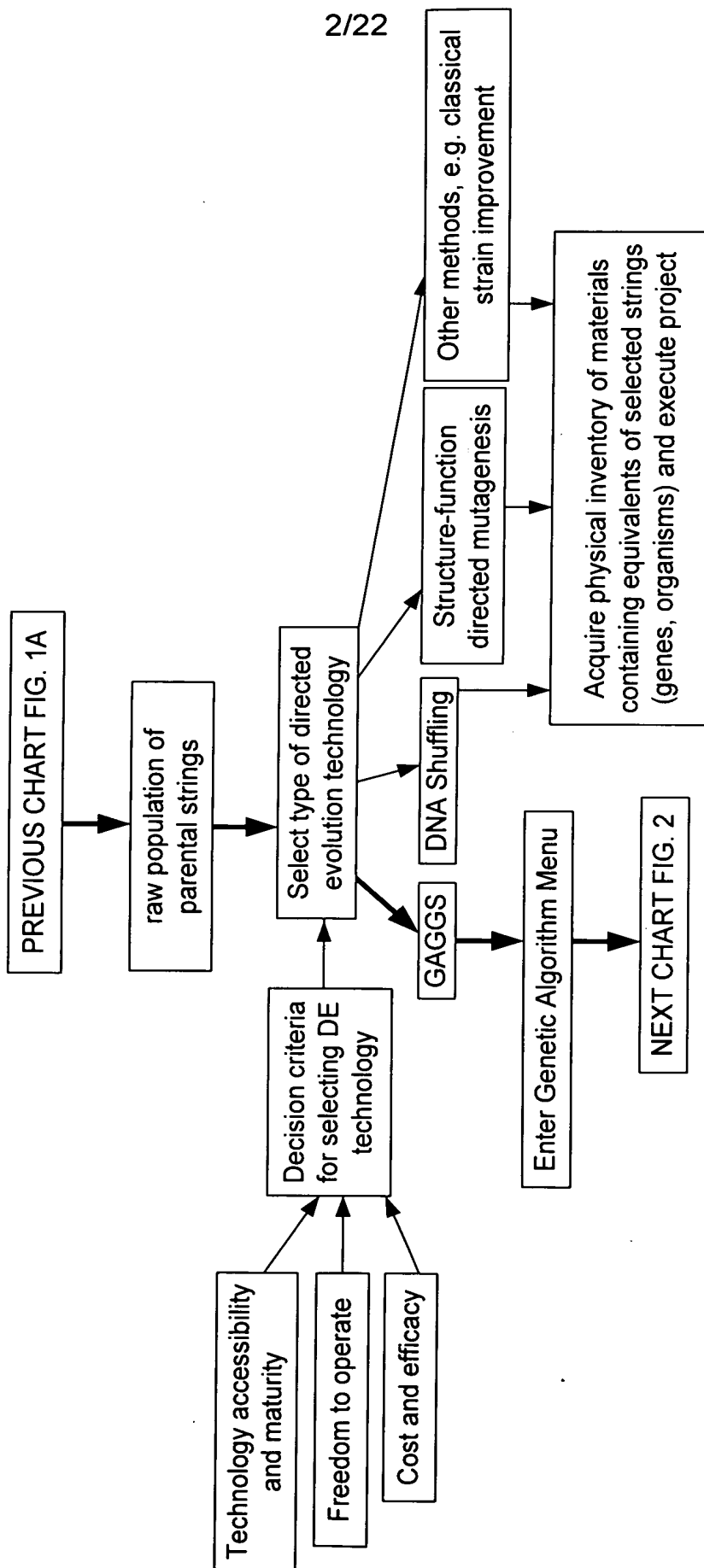


FIG. 1B



# REPLACEMENT SHEET

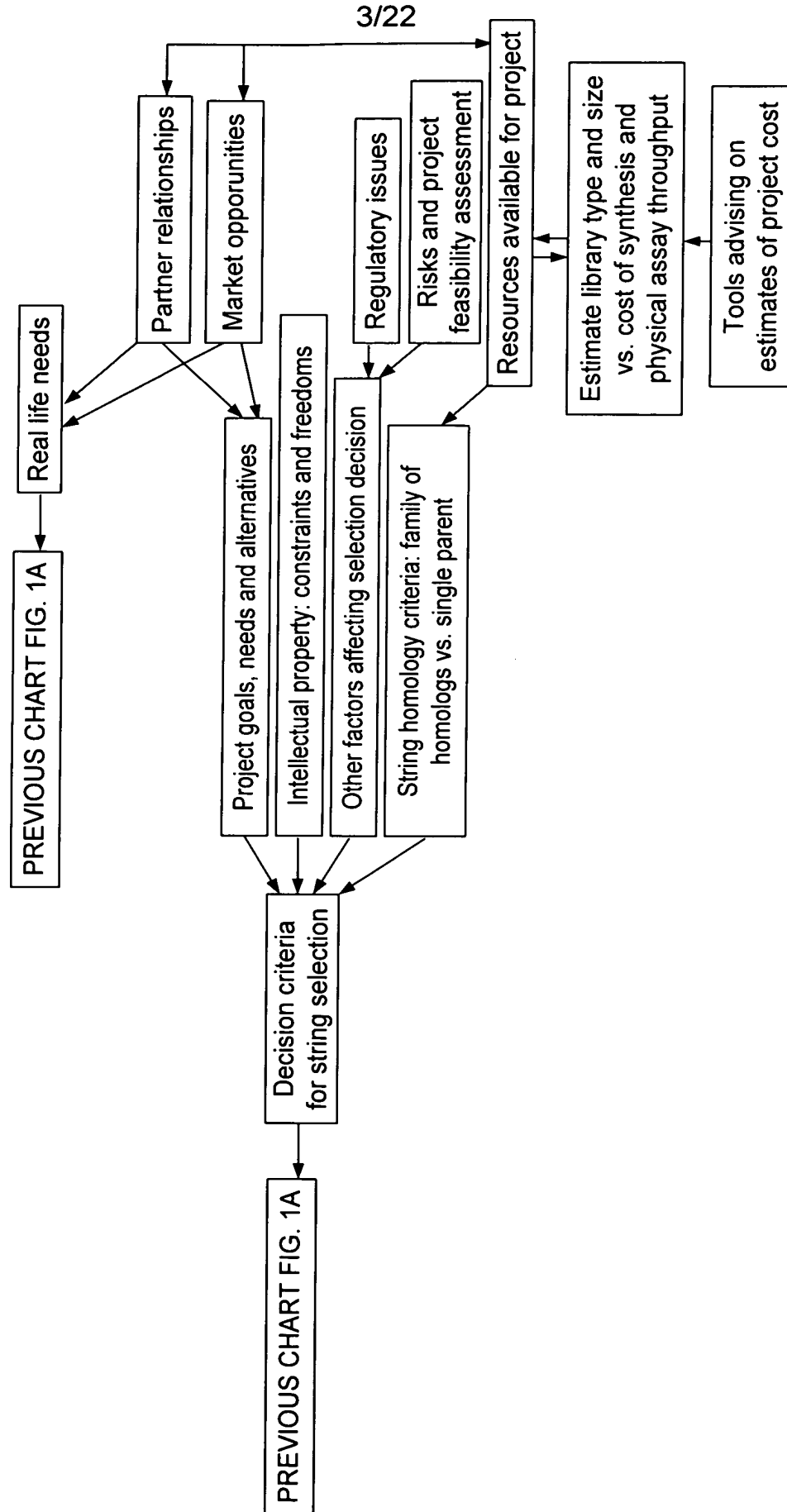
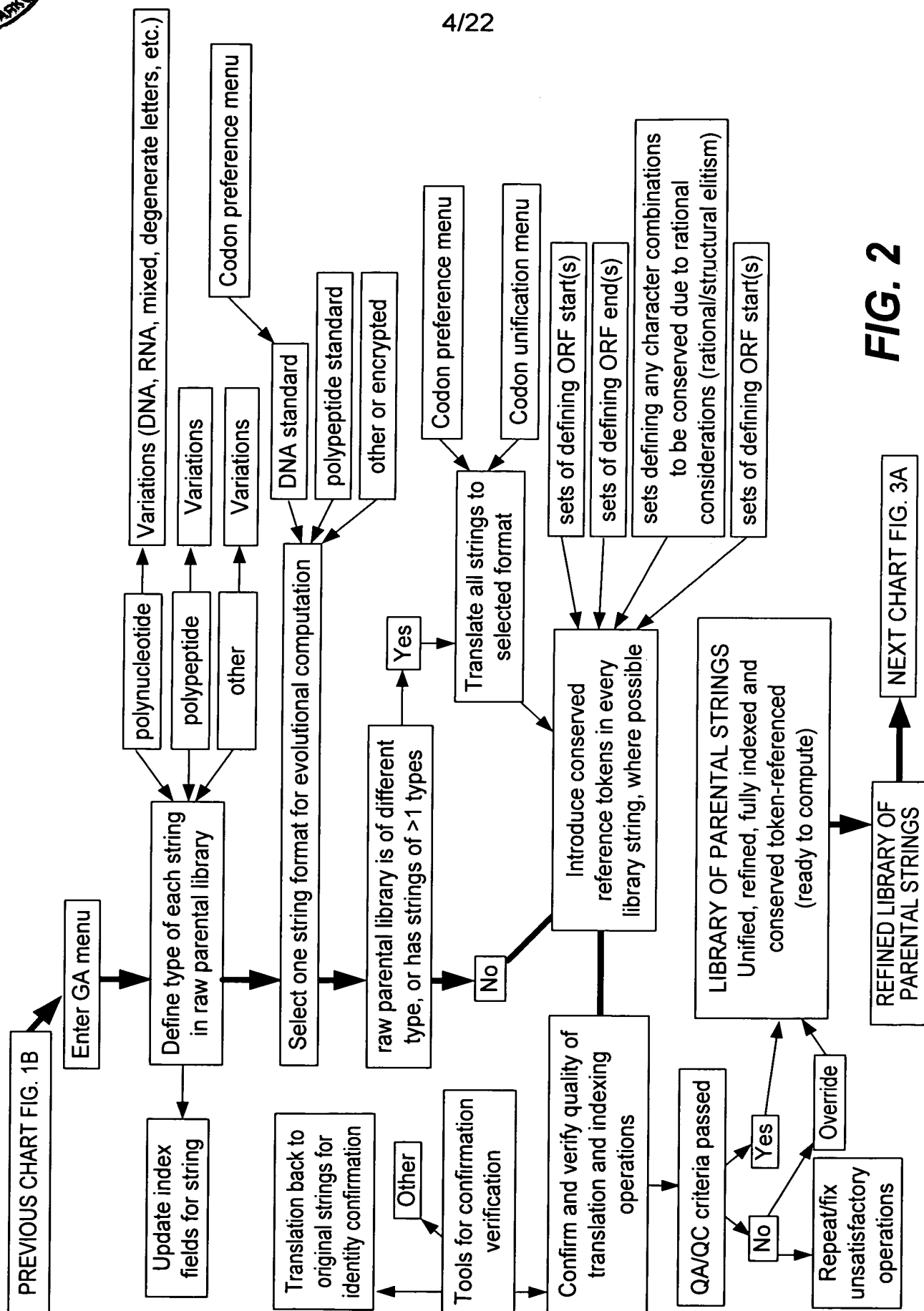


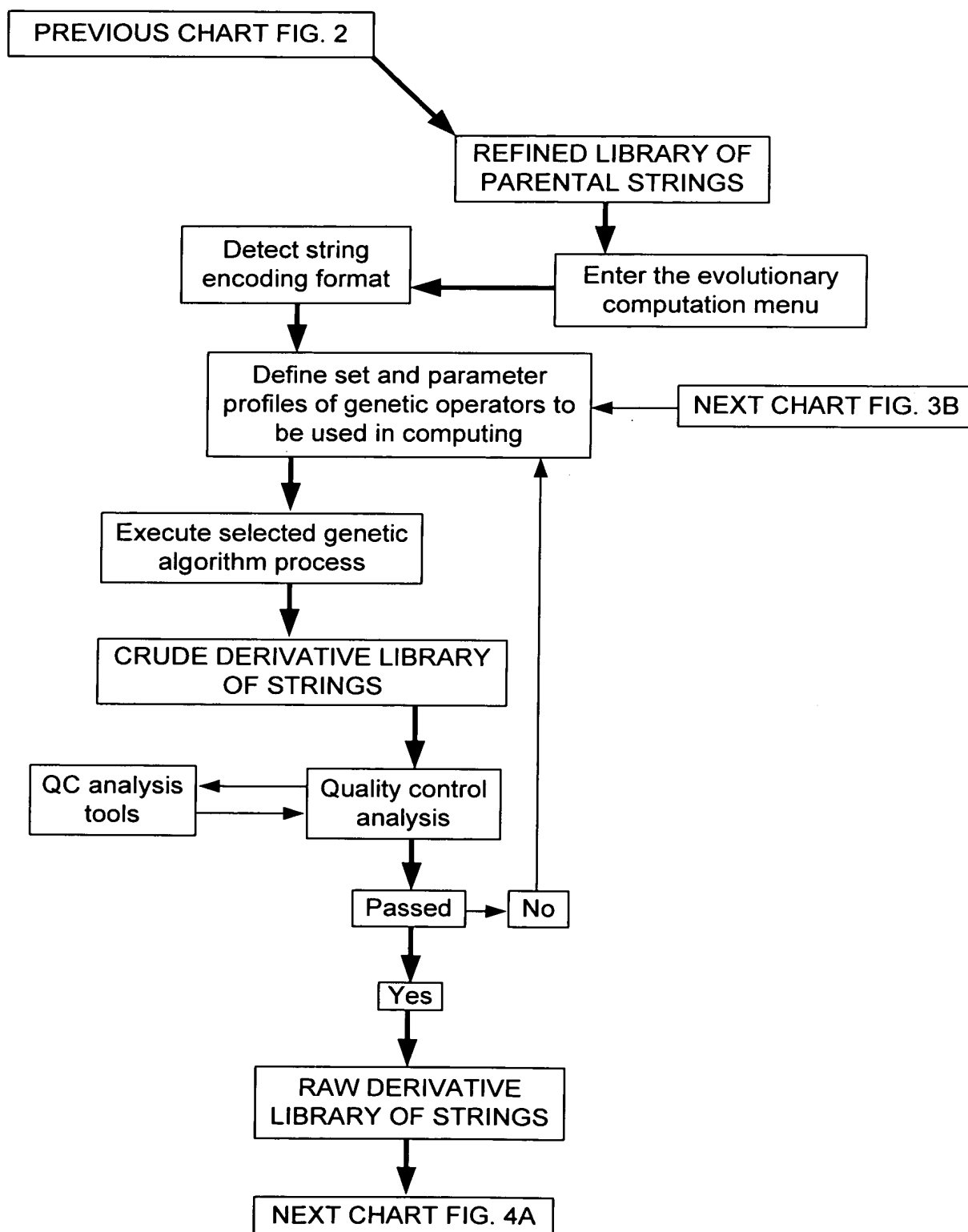
FIG. 1C

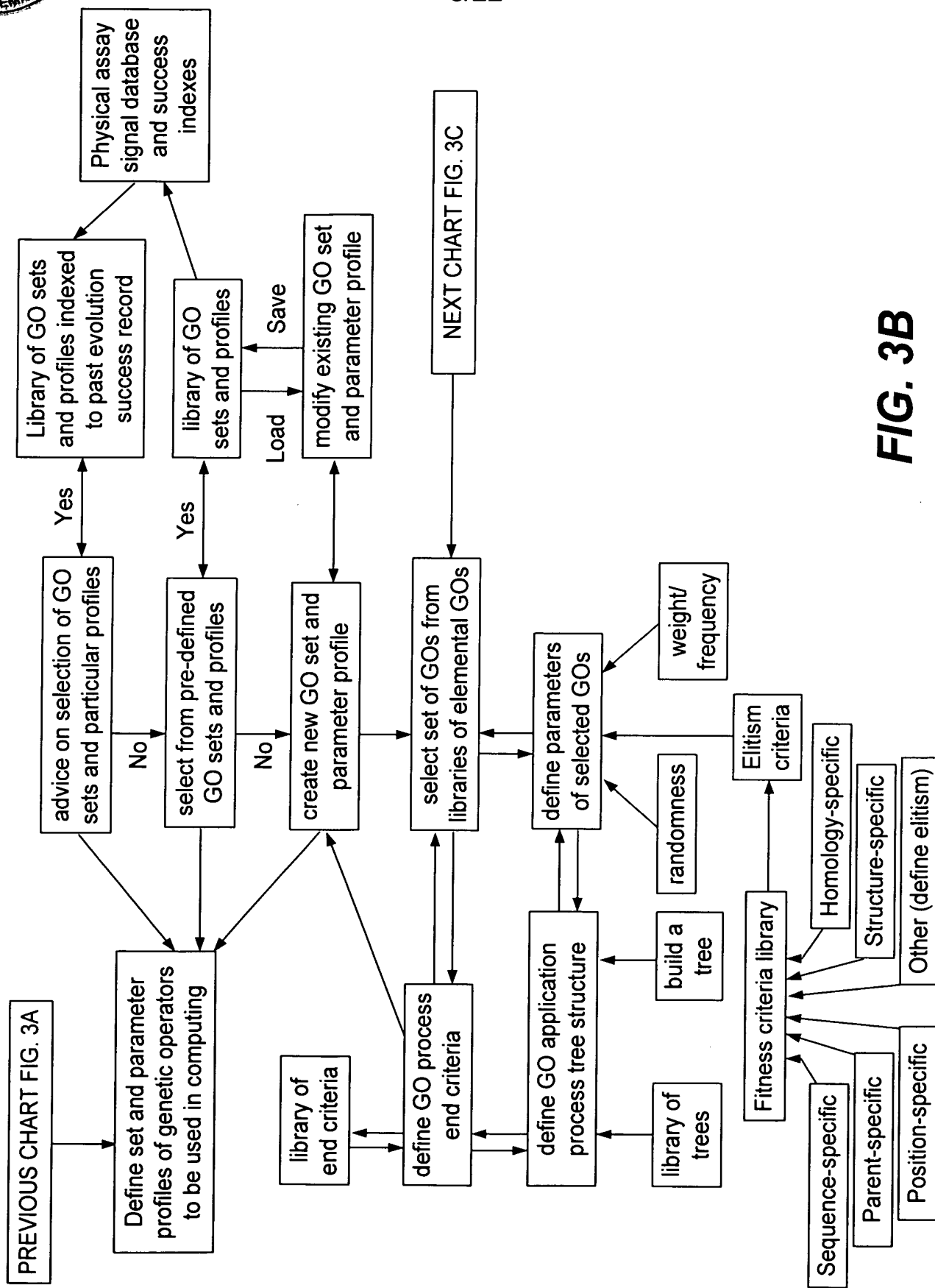


**FIG. 2**



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**FIG. 3A**



**FIG. 3B**

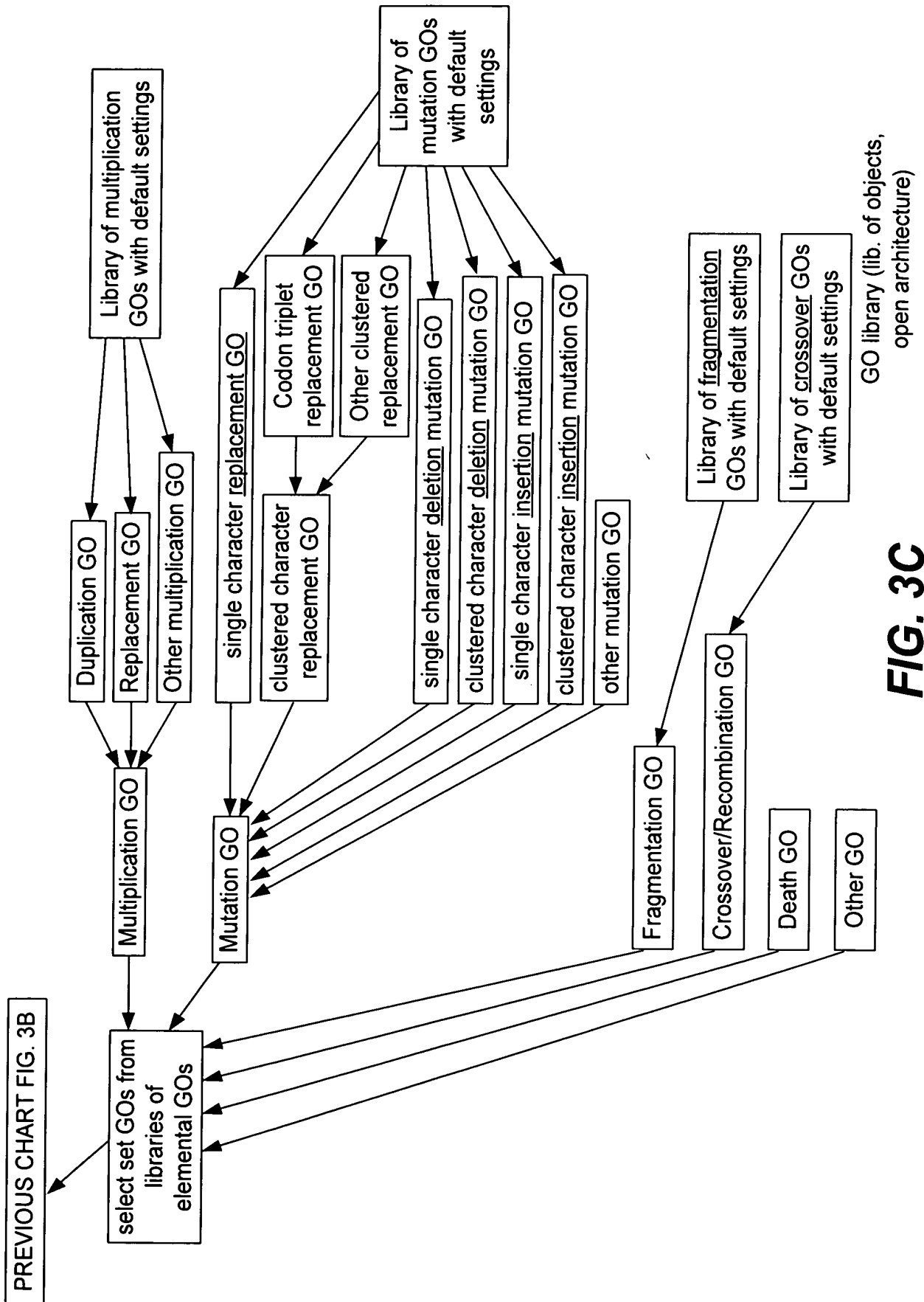


FIG. 3C

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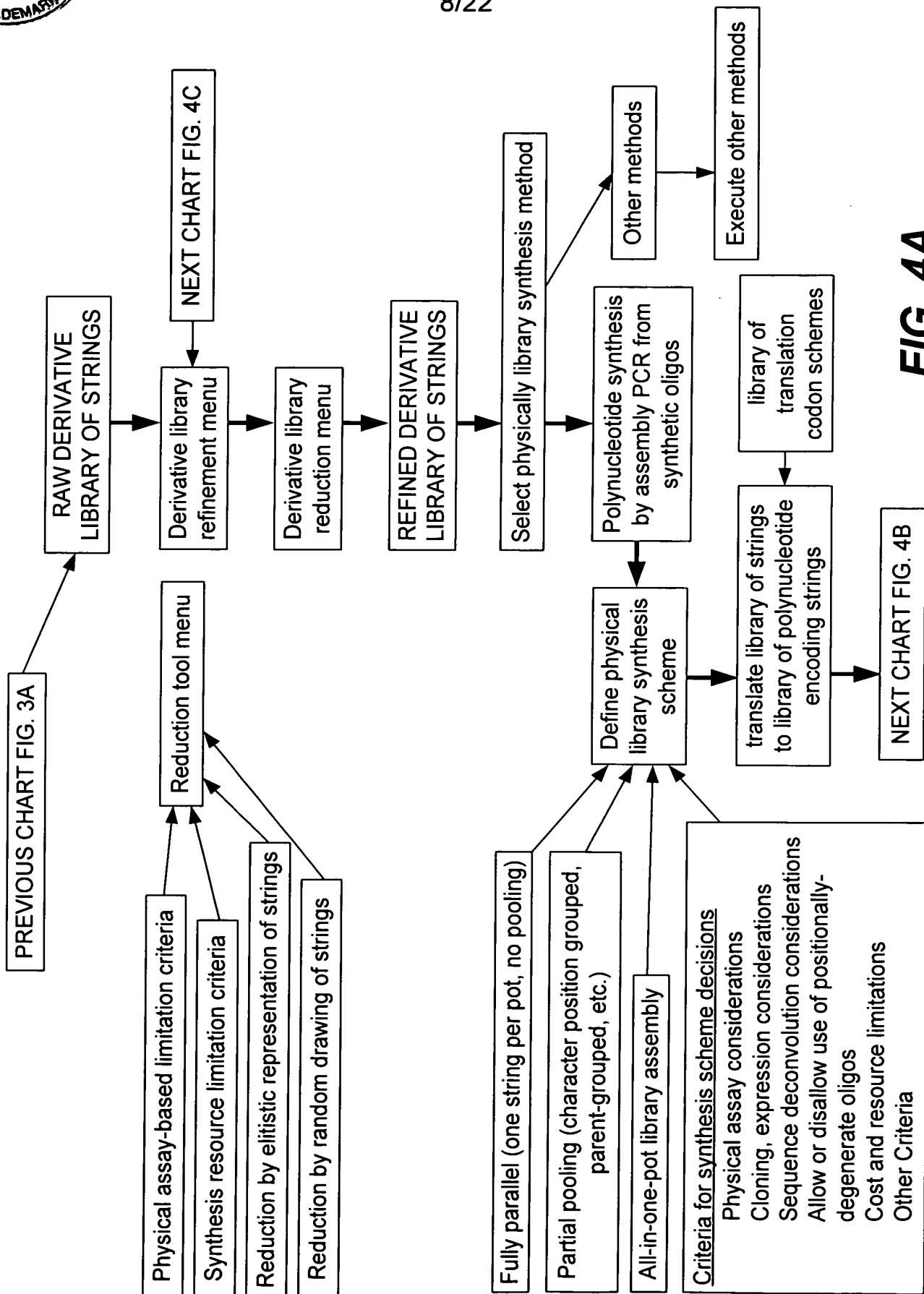
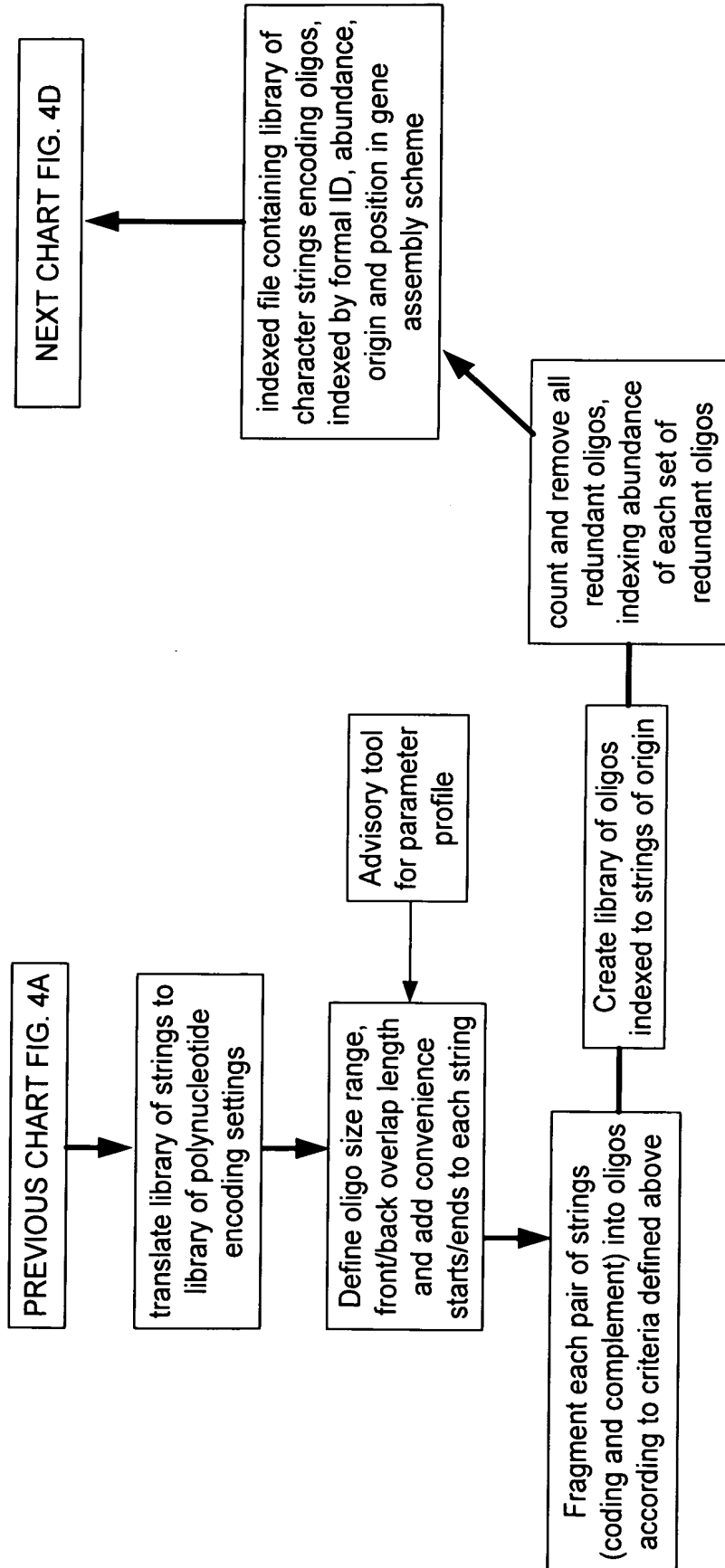


FIG. 4A

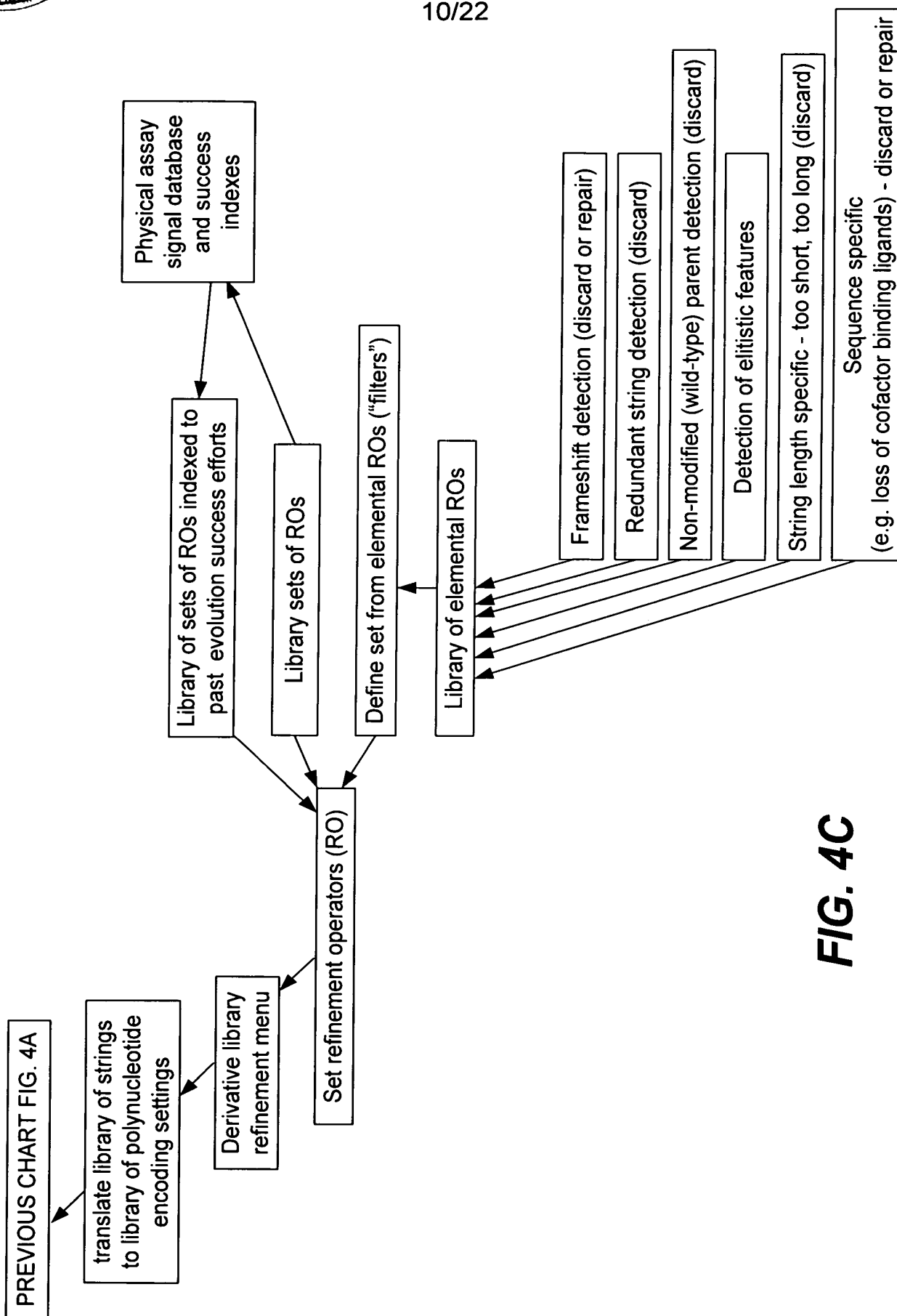


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**FIG. 4B**

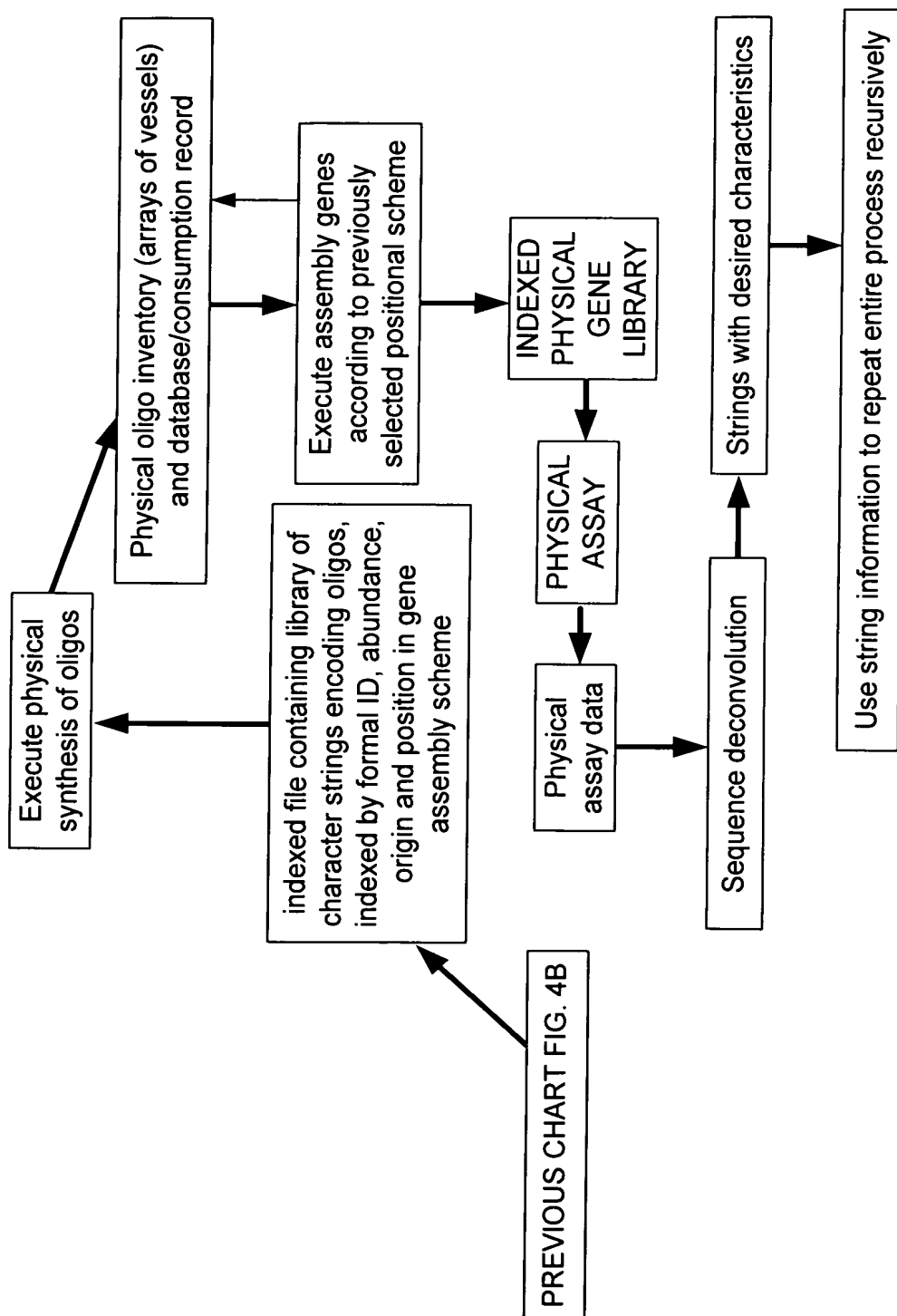
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**FIG. 4C**



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**FIG. 4D**



# REPLACEMENT SHEET

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Percent Similarity

	1	2	3	4	5	6	7	
1		62.1	81.4	57.6	81.8	56.1	59.1	1 A27211 synthetic 309.PM
2	50.5		61.0	54.9	59.5	58.2	60.8	2 BACAPRQ subtilisin. PM
3	21.0	52.0		54.6	78.4	50.6	53.2	3 BACAPRS subtilisin. PM
4	54.4	63.3	62.3		52.0	64.6	67.9	4 BACSBTL subtilisin. PM
5	20.5	54.9	25.1	65.6		53.9	56.5	5 BACYAB subtilisin alk. PM
6	58.6	56.6	72.2	44.2	63.4		94.9	6 BLSC11594 subtilisin. PM
7	52.5	51.4	66.0	38.5	57.8	4.9		7 I82494 keratinase. PM
	1	2	3	4	5	6	7	

FIG. 5A

BACAPRS subtilisin. PM  
BACYAB subtilisin alk. PM  
A27211 synthetic 309. PM  
BLSC11594 subtilisin. PM  
I82494 keratinase. PM  
BACSBTL subtilisin. PM  
BACAPRQ subtilisin. PM

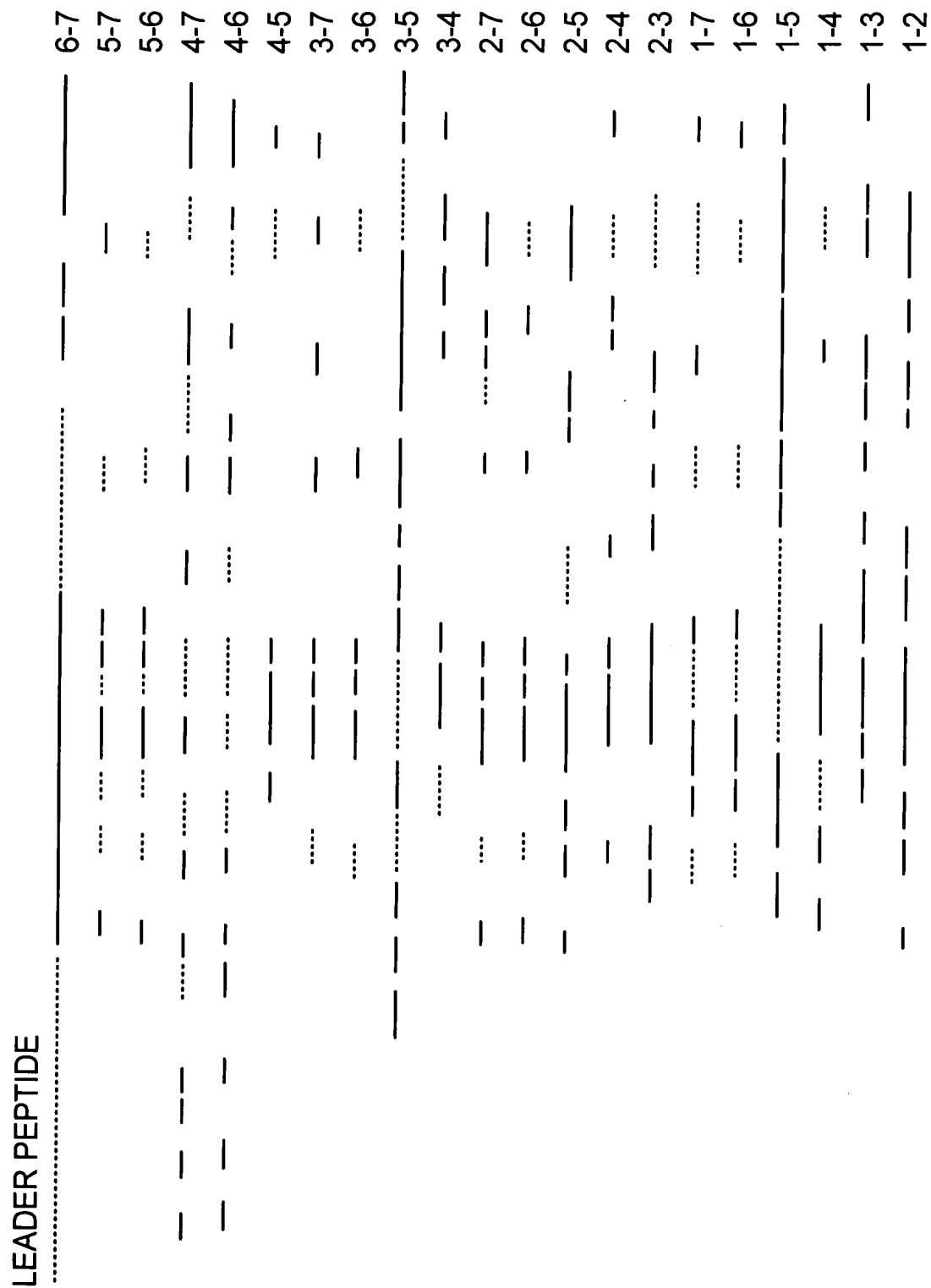


FIG. 5B



REPLACEMENT SHEET

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**FIG. 6**



REPLACEMENT SHEET

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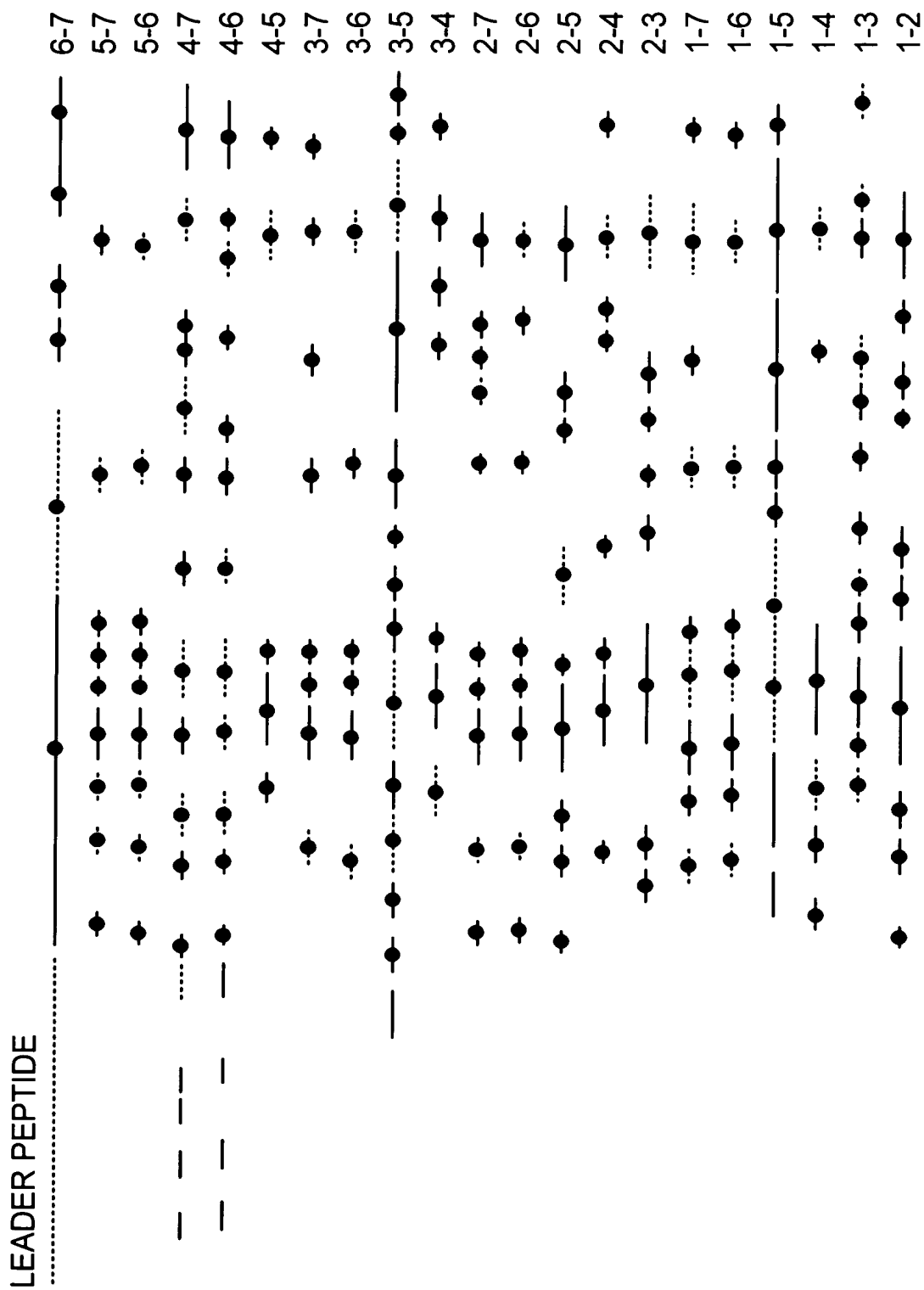
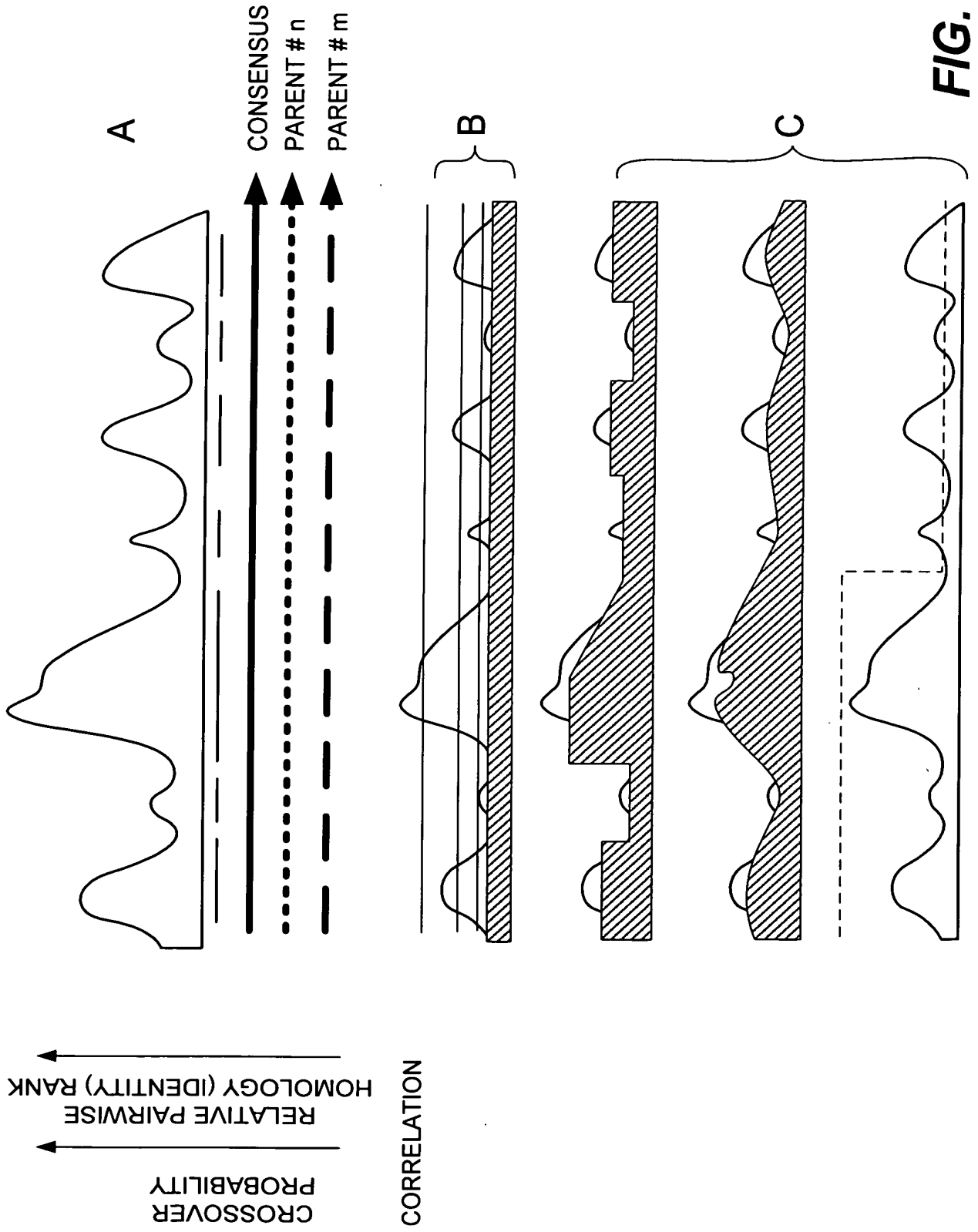


FIG. 7





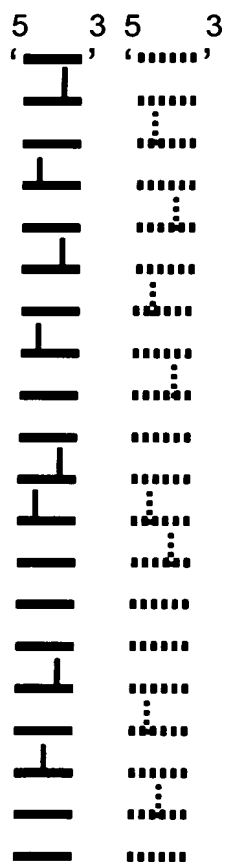




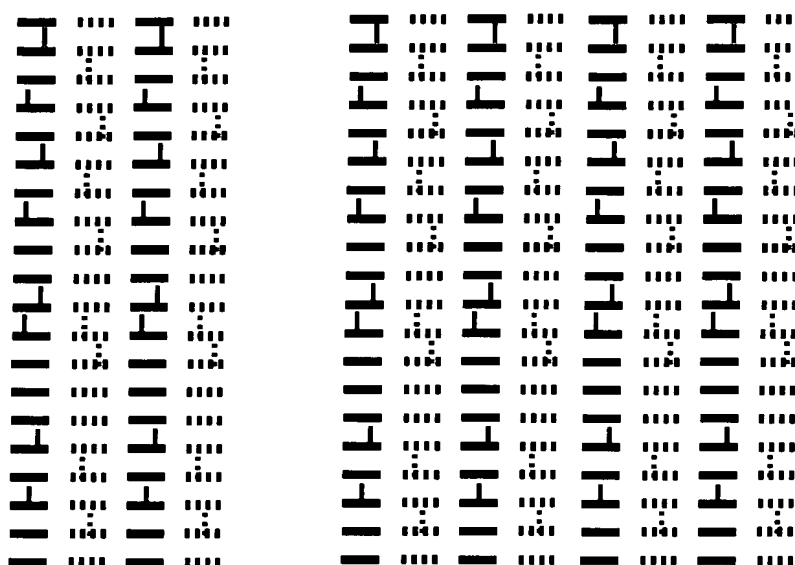
REPLACEMENT SHEET

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SET OF OLIGOS TO  
ASSEMBLE A PARENT



COMPLETE INVENTORY OF  
OLIGO SEQUENCES  
(TO ASSEMBLE ALL PARENTS)



FIND ALL PAIRS OF PAIRS OF  
OLIGO SEQUENCES WITH  
MATCHING PAIRWISE  
CROSSOVER INDEXES

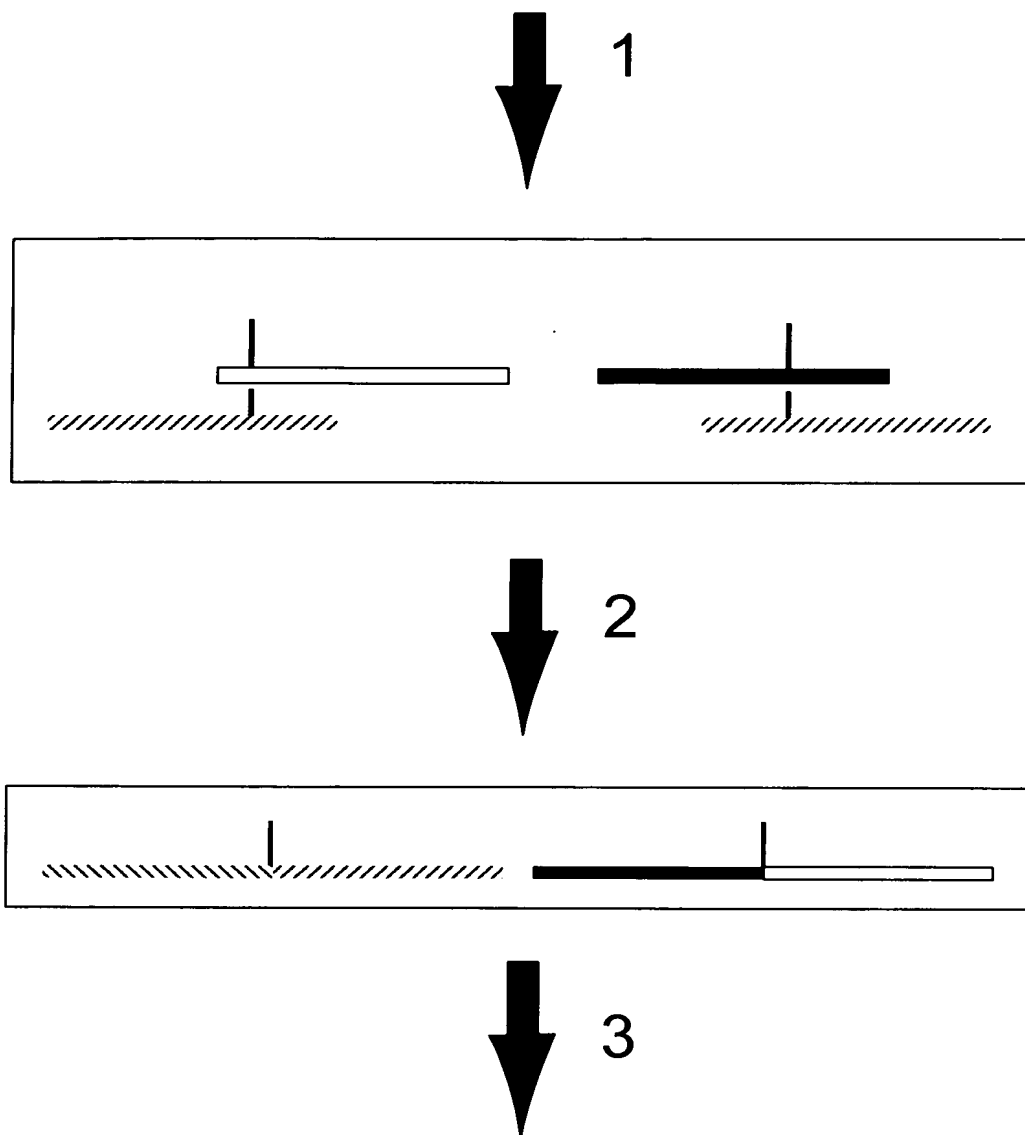
SUB-INVENTORY OF OLIGOS  
WITH CROSSOVER MARKERS

**FIG. 10**



REPLACEMENT SHEET

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**FIG. 11**



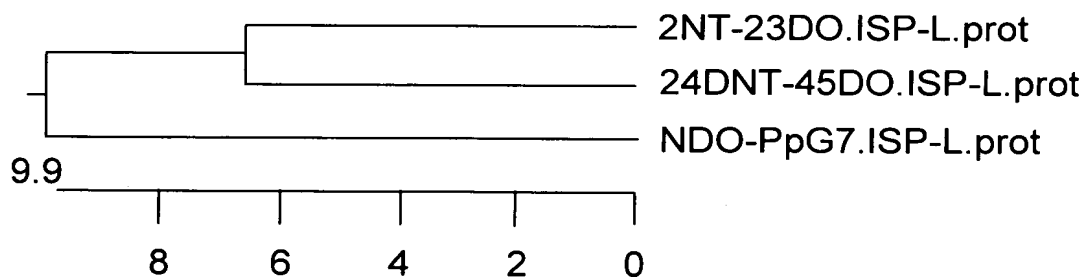
# REPLACEMENT SHEET

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Percent Similarity

	1	2	3		
1		87.1	79.1	1	24DNT-45DO.ISP-L.prot
2	13.0		83.3	2	2NT-23DO.ISP-L.prot
3	21.7	17.9		3	NDO-PpG7.ISP-L.prot
	1	2	3		

**FIG. 12A**



**FIG. 12B**



REPLACEMENT SHEET

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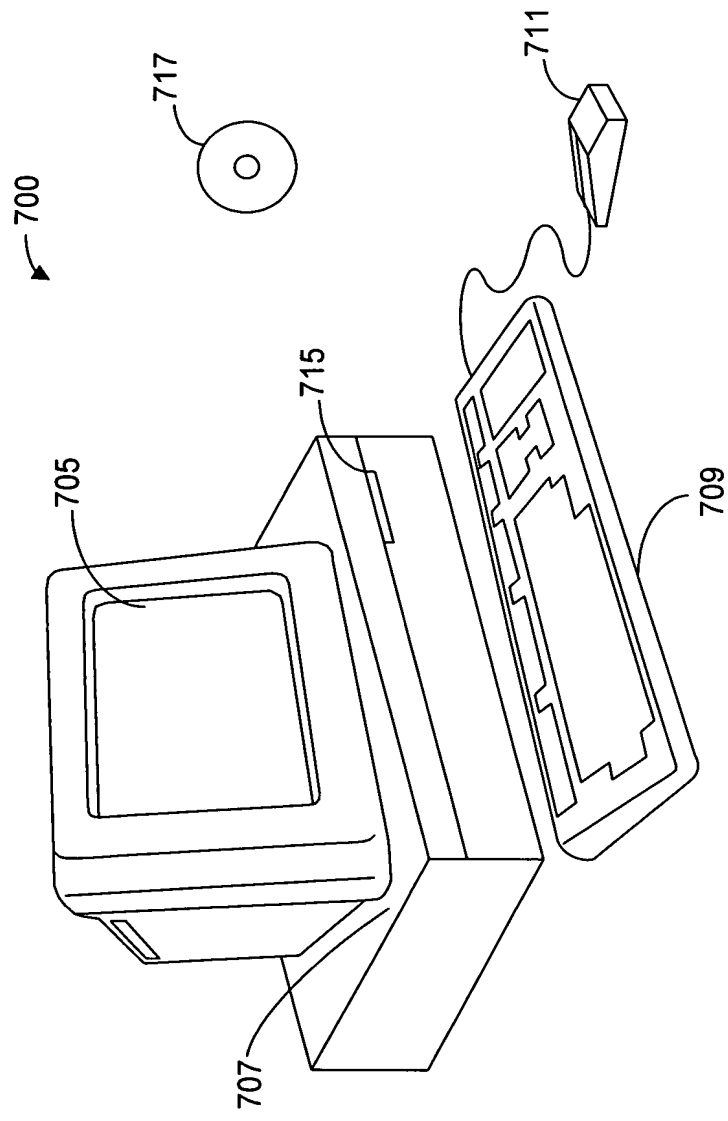
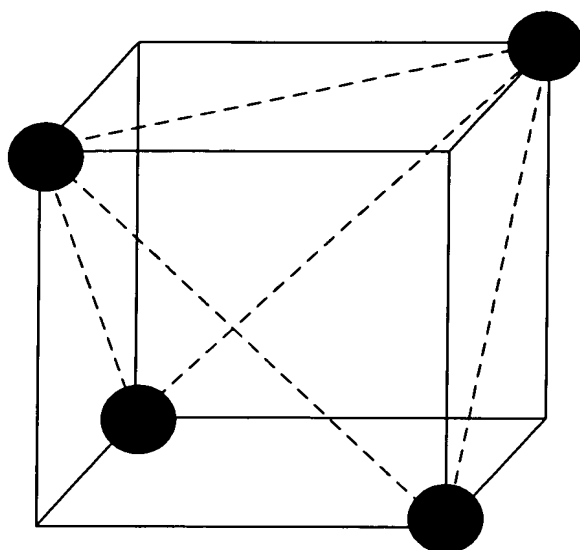


FIG. 13



# REPLACEMENT SHEET

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Geometric representation  
Equal distance between  
each nucleotide

**FIG. 14A**

A	-1 -1 +1
C	+1 -1 -1
G	-1 +1 -1
T	+1 +1 +1

Numeric representation

**FIG. 14B**



REPLACEMENT SHEET

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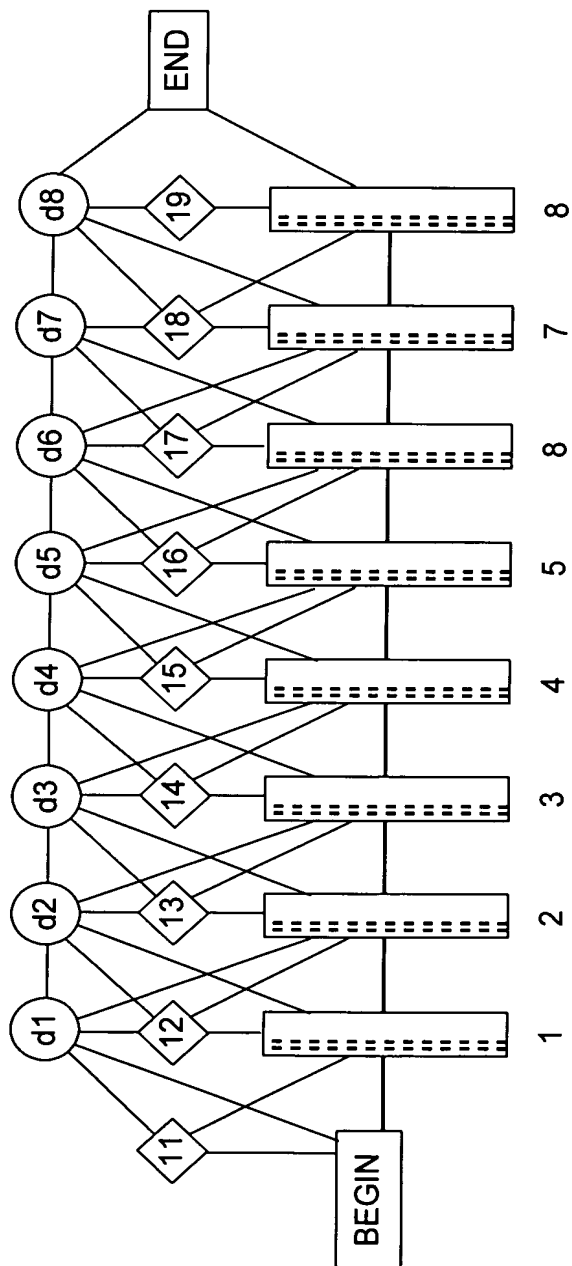


FIG. 15